

ABSTRACT OF THE DISCLOSURE

In a polymer electrolyte fuel cell stack using a latent heat cooling system, a plurality of first reactant gas flow paths formed in one plate surface of each separator are made substantially linear in the vertical direction, and an arrangement capable of supplying water to the first reactant gas flow paths includes a water manifold formed to extend through the separator, a water supply path branched from the water manifold and horizontally formed in a surface in which second reactant gas flow paths are formed, and communication holes horizontally formed in a first reactant gas flow path introducing portion to allow the water supply path to communicate with the first reactant gas flow paths, and present above the lowermost portion in the vertical direction of the water manifold. With this arrangement, stable power generation can be performed regardless of, e.g., the stack installation angle or vibrations.